



## Valvular Heart Disease

### IMPACT OF RECURRENT MYOCARDIAL INFARCTION ON THE DEVELOPMENT OF ISCHEMIC MITRAL REGURGITATION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION: LONG-TERM ECHOCARDIOGRAPHIC FOLLOW-UP STUDY

Poster Contributions

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**Background:** Ischemic mitral regurgitation (IMR) is a common complication after acute myocardial infarction (MI), which occurs as a consequence of regional and/or global left ventricular remodeling. However, the impact of recurrent MI on the incidence of IMR following acute MI is not well investigated.

**Methods:** We studied 331 consecutive patients with acute MI who underwent emergent coronary angiography and were serially evaluated by transthoracic echocardiography during the follow-up period.

**Results:** The mean age of study patients was 65±11 years and 265 patients (81%) were men. There were 153 (46%) patients with anterior MI, and 178 (54%) patients with infero-posterior MI. The mean follow-up period was 75 months. Of the 331 patients, 59 patients had prior MI (32 had apparent MI history, 27 had silent MI), and 9 patients developed second myocardial infarction during follow-up period. Overall, 68 patients had recurrent MI (recurrent MI group) and remaining 263 patients had experienced only first MI (first MI group). Peak CPK level was significantly lower in the recurrent MI group than in the first MI group (2239±2412 IU/l vs. 3163±3090 IU/l, P=0.02). In the recurrent MI group, left ventricular volume significantly increased during the follow-up period (EDV: 92±28 ml vs 102±45 ml, p=0.001; ESV: 49±26 ml vs 56±40 ml, p=0.001), and significant positive left ventricular remodeling (end-diastolic volume change) occurred in the recurrent MI group, but not in the first MI group (14±31 ml vs. -1.3±27 ml, P<0.001). In the recurrent MI group, MR severity showed significant progression during follow-up period (p<0.001). A total of 21 patients (31%) developed IMR (moderate or severe) in the recurrent MI group, whereas 42 patients (16%) developed IMR in the first MI group (P=0.005). Multivariate analysis revealed that age, peak CPK level, infero-posterior MI, and recurrent MI were the significant predictors of the development of IMR (p<0.001).

**Conclusions:** Recurrent MI was associated with progression of left ventricular remodeling, and was an independent predictor of IMR development in patients after acute MI.